

The background of the slide features a repeating pattern of light green hexagons on a darker green gradient. A solid brown rectangle is positioned in the upper right corner.

Increasing Geothermal Development in Utah

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UC DAVIS

CALIFORNIA GEOTHERMAL
ENERGY COLLABORATIVE

Our mission is to help expand the sustainable use of geothermal resources to meet California's energy needs through outreach and education and by supporting industry and research.

Examples of CGEC Projects

- Geologic studies in KGRAs
- Outreach & Permitting Guides
- Co-location studies of renewable energy
- Industry Forums
- Educational activities (CEC, State Legislature,
- Center for Geothermal Resources
- Statewide GHP Efficiency Study
- Nationwide GHP Study

Some Driving Factors for Geothermal Development

- Cost of power
- Policies
- Resource potential
- Financial risk & incentives
- Environment for Development

Resource Snapshot

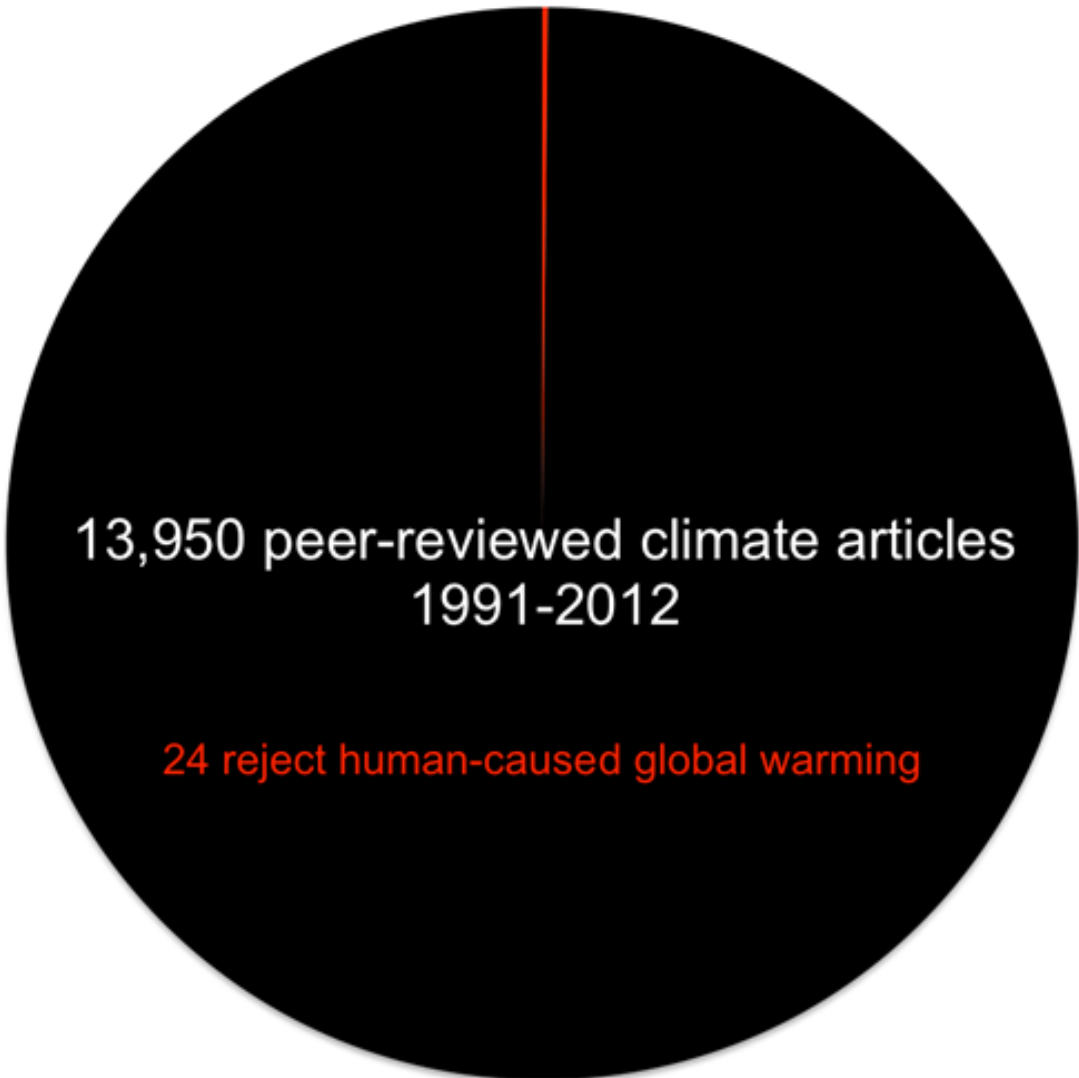
California

- ~2615 MW Developed (GEA, 2012)
- More geothermal fields in California, many still untapped or underutilized
- Makes up ~4.5% of all of CA's energy

Utah

- ~42 MW Developed (GEA, 2012)
- Less geothermal fields, but still vast potential in known geothermal resource areas.
- UREZ Phase II: 437 MW of developable and known geothermal

Political Environment



13,950 peer-reviewed climate articles
1991-2012

24 reject human-caused global warming

Political Environment

California

*California policy makers along with 99+% of scientists accept that anthropogenic climate change is happening.

***Renewable Portfolio Standard**

20% by Dec. 31, 2013

25% by Dec.31, 2016

33% by 2020

***AB32 – California Global Warming Solutions Act**

Reduce GHG emissions to 1990 levels by 2020

Utah

*HJR 12, 2010: "...urges the EPA to cease CO2 reduction policies, programs, regulations until climate data and global warming science are substantiated."

***Renewable Portfolio Goal**

20% by 2025 (if cost effective)

Lots of offramps

Financing Geothermal Development

- Riskier to develop than wind and solar
- More expensive to prove out resource
- Different assessments of the same resource can vary greatly
- Companies need to have enough capital to spread risk
- Utah is business friendly
- LCOE of geothermal is still very low and competitive with wind and new fossil resources

What can Utah do?

- Invest in more geologic studies:
 - UGS
 - U of U
- Invest in research for better technologies such as CGR type efforts
- Engage with Nevada, California and other geothermal states to find ways to reduce the risk (i.e. revolving loan fund for exploratory drilling)
- Increase the PTC from \$0.0035/kWh to something more enticing
- Re-energize geothermal working group

Contact Information



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